

- B<sub>2</sub>  
cont
- d) in cyclizing the compound of formula IV to a compound of formula I in the presence of NH<sub>4</sub>Cl and AcOH,
  - e) optionally converting the compound of formula I thus obtained into another compound of formula I.--
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REMARKS

Responsive to the restriction requirement set forth in the Official Action of March 4, 2003, applicants hereby provisionally elect Group I, claims 1-2 in part, 3-7, 8-12 in part, 13 and 14, drawn to compounds, compositions and methods according to Formula I and Ia wherein X is O, not required for Group II, with traverse.

As to the election of species requirement imposed in the outstanding Official Action, applicants provisionally elect 5-amino-9H-quino[4,3,2-de][1,10]phenanthroline-9-one (Example 9, CRL8347). It is believed that the elected species reads on claims 5, 7 and 10. Applicants believe that claims 1-4, 6, 8-9 and 11 are generic.

The grounds for traverse are as follows:

1. The same claims as pending in the present national stage application were subject to examination during the International Phase of the PCT application. The International

Examiner found no lack of unity, applying the same legal standards to the identical facts.

Applicants believe that the U.S. Patent Office cannot now contend that the examination of the same claims in the present application would pose an undue searching burden. Indeed, the U.S. Examiner has the considerable benefit of the search results generated by the International Examiner, on the basis of all pending claims.

Moreover, applicants note that the Official Action fails to explain why, applying the identical legal standards to the identical claims, the opposite result is now being reached in the present U.S. national phase application, relative to the international application.

2. Applicants believe that the outstanding Official Action fails to comply with the requirements of PCT Rules 13.1 and 13.2, in attempting to justify the lack of unity determination. Specifically, the definition of "special technical feature" in PCT Rule 13.2 is art-based. Thus, applicants believe that a proper lack of unity of determination requires the citation of a reference showing an absence of a "special technical feature". No such citation having been made, the lack of unity of determination is improper as a matter of law.

In light of the above discussion, therefore, it is believed that applicants are entitled to an action on the merits

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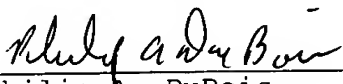
to all the pending claims, in their full scope, in the present application. Such action is accordingly respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

Respectfully submitted,

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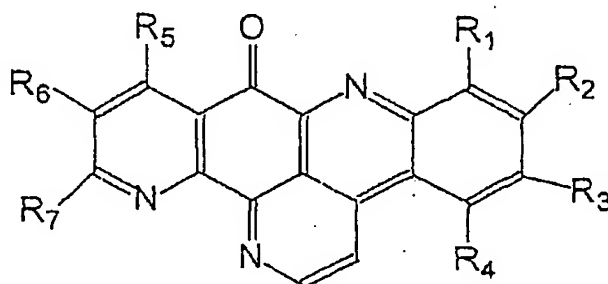
April 4, 2003

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

IN THE CLAIMS:

Claim 13 has been amended as follows:

--13. (amended) A process for preparing compounds of general formula I, of formula:



in which:

- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,

- R<sub>2</sub> is chosen from hydrogen and halogens,

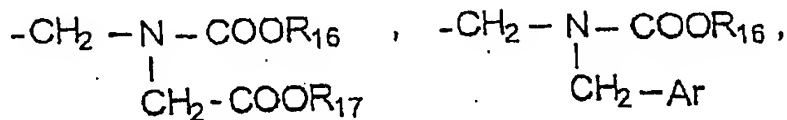
- R<sub>3</sub> is chosen from hydrogen, halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>6</sub>) alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl groups and groups -(CH<sub>2</sub>)<sub>n</sub>-Y with Y being chosen from halogens and CN, -CH(O-Et)<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>) alkoxy, -O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups and -N(CH<sub>3</sub>)<sub>2</sub> and n = 1 to 3,

- R<sub>4</sub> is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,

- R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> are chosen from:

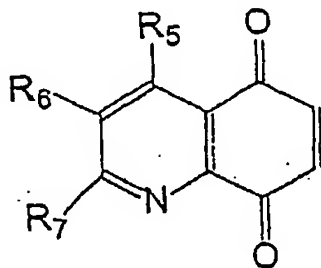
hydrogen or a halogen atom,

C<sub>1</sub>-C<sub>6</sub> alkyl, hydroxyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, (C<sub>1</sub>-C<sub>6</sub>)alkoxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkylcarbonyloxy-(C<sub>1</sub>-C<sub>4</sub>)alkyl, -CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>6</sub>) alkyl, -phenyl-CO-CH<sub>3</sub> and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups, -phenyl-CO-CH<sub>3</sub> or -phenyl-CO-CH=CH-N(CH<sub>3</sub>)<sub>2</sub>, morpholino, nitro or SO<sub>3</sub>H groups, groups:

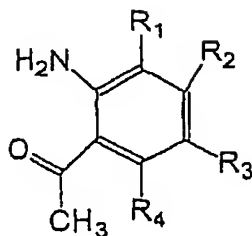


R<sub>16</sub> and R<sub>17</sub> being chosen from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group, with the exclusion of the compounds of formula I in which either R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H, or R<sub>1</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H and R<sub>2</sub> = Br, or R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H and R<sub>3</sub> = OCH<sub>3</sub>, or R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>6</sub>, R<sub>7</sub> = H and R<sub>5</sub> = OH or OCH<sub>3</sub> or R<sub>1</sub> = NO<sub>2</sub> and R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H, which consists

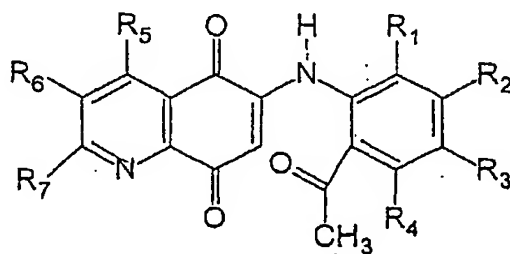
a) in reacting a hydroquinone of formula



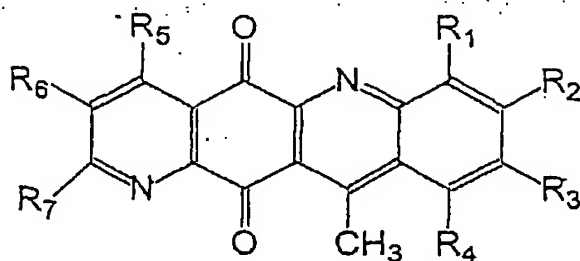
with a compound of formula



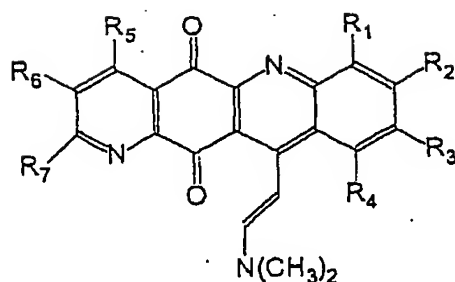
in the presence of  $\text{CeCl}_3$ ,  $7\text{H}_2\text{O}$  and ethanol to give a compound of formula II



b) in converting the compound of formula II into a compound of formula III



c) in reacting the compound of the formula III with  $\text{HC}(\text{OC}_2\text{H}_5)_2\text{N}(\text{CH}_3)_2$  in DMF at  $120^\circ\text{C}$  to form a compound of formula IV



- d) in cyclizing the compound of formula IV to a compound of formula I in the presence of  $\text{NH}_4\text{Cl}$  and  $\text{AcOH}$ ,
- e) optionally converting the compound of formula I thus obtained into another compound of formula (II) ~~II~~ <sub>N</sub>.